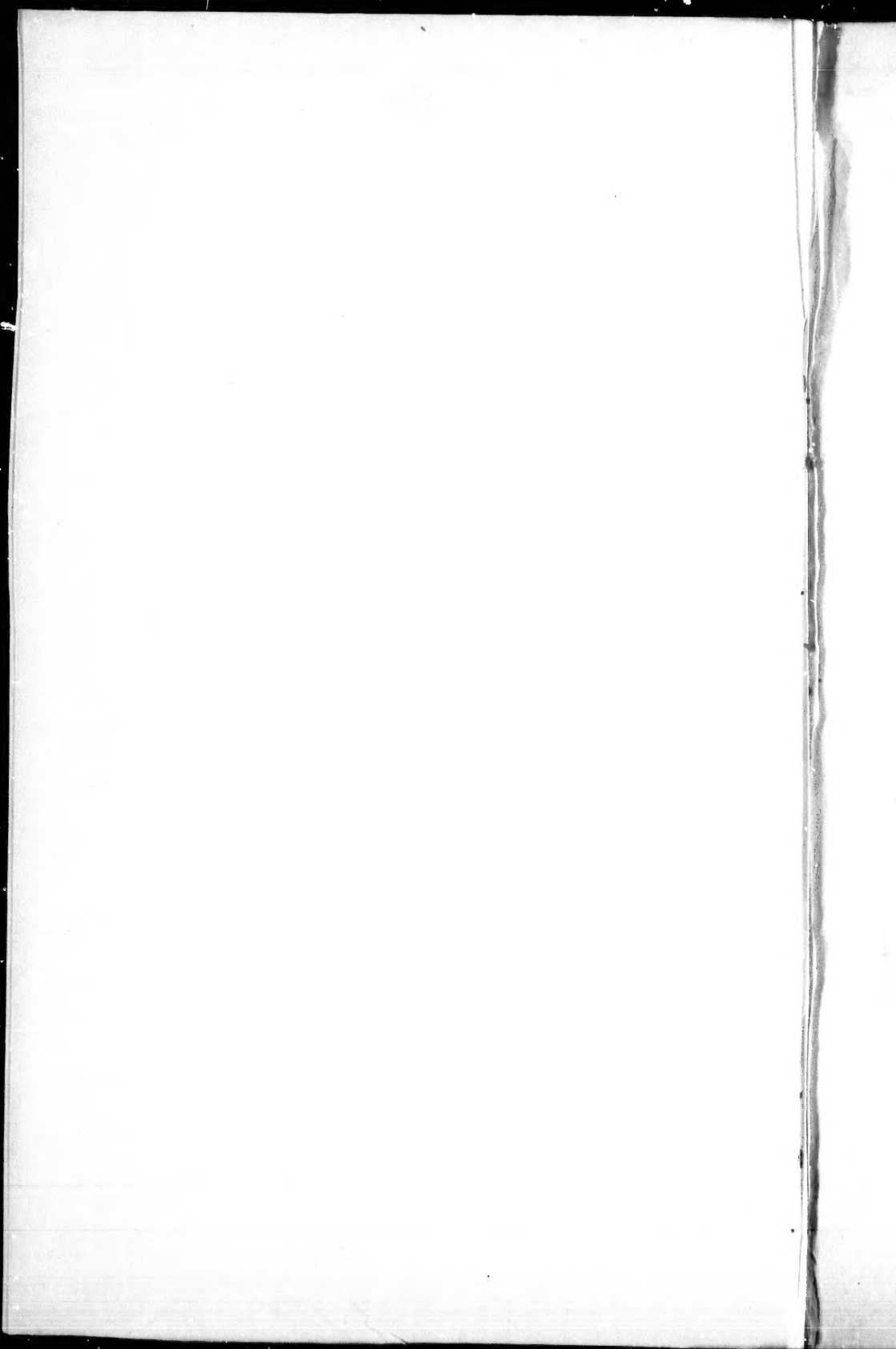




Stanford Fleming Esq.
Civil Engineer

THE BEST ROUTE

With the friendly regards of the
Writer

FOR THE

INTERCOLONIAL RAILWAY

THROUGH

THE PROVINCES

OF

QUEBEC AND NEW BRUNSWICK,

CONSIDERED BY

WALTER M. BUCK, C. E.

ST. JOHN, N. B.:

WILLIAM M. WRIGHT,
CORNER MARKET SQUARE & PRINCE WILLIAM STREET.

1867.

THE BEST ROUTE

THE CANADIAN PACIFIC RAILWAY

THE GREAT WESTERN RAILWAY

THE GREAT WESTERN RAILWAY

THE GREAT WESTERN RAILWAY

THE GREAT WESTERN RAILWAY

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THE INTERCOLONIAL RAILWAY.

WHICH IS THE BEST ROUTE THROUGH THE PROVINCES OF QUEBEC AND NEW BRUNSWICK?

This has become the momentous question of the day, the great topic for Editorial correspondence and comment, and will, before long, be made the important subject for debate in the new House of Commons at Ottawa.

Three routes have been selected from many already surveyed and reported upon.

The chosen three are, 1st,—“North Shore”; 2nd,—“Central”; 3rd,—“Frontier.”

To these may now be added a fourth, more recently advocated, viz: the “Western”—being a combination of the “Frontier” and “Central” including the proposed branch from Fredericton to Hartt’s Mills on the Oromocto River, and the Western Extension Railway to St. John.

Each of these routes has, doubtless, numerous firm supporters as representatives of the Northern and Eastern, the Central, and the Western interests of the Province: and the combined influence of each sectional interest will be brought to bear upon the deliberations of the General Government, during the first Session of the Parliament of the New Dominion.

GENERAL DESCRIPTION OF ROUTES.

NORTH SHORE ROUTE. (*See Map,—Yellow Tinted.*)

Commencing at and crossing the River du Loup, it next crosses the Rivers Verte and Trois Pistoles, and continuing an easterly course crosses the Rimouski River; thence by the west branch of the Metis River to the Forks; and thence by the Kempt Road to the western shore of the Metapedia Lake, and along the valley of the Metapedia River to the confluence with the Kestigouche River on the Canadian frontier, at which point the village of Glenlivit is situated, about 165 miles from River du Loup. The Kestigouche is here crossed, and the line follows along the shore of the harbour, passing within three miles of the town of Dalhousie, at the harbour entrance; thence along the Bay Shore, crossing no less than *twenty-two* streams, and reaches the town of Bathurst at the mouth of the

Nepisiguit river, distant about 235 miles from River du Loup. From this point, the line of route ceases to be "North Shore," as it takes a south-easterly course along the valley of the Nepisiguit, leaving which at the Gordon Lake, it crosses over to the waters of the N. W. Miramichi River, and thence down its course to the fork with the little S. W. Miramichi, twelve miles from the town of Newcastle.

[This town is nearly on the same parallel (47°) with the town of Grand Falls. Its distance from River du Loup is about 285 miles. Grand Falls from River du Loup is but 115 miles. From Newcastle to Moncton there would be 85 miles to build; from Grand Falls to Woodstock 73 miles:—therefore it is apparent that 171 miles of road by this route, are, as it were lost in crossing the Northern Section of the Province].

After crossing the N. W. Miramichi the line next crosses the S. W. branch at Indiantown. It then takes an easterly course passing within 21 miles of Kouchibouguac, and within 23 miles of Richibucto; thence to a point on the Buctouche river 12 miles from the town; thence across to the Irishtown road passing within 11 miles of Cocaigne; and thence to the junction with the European and North American Railway at Moncton 371 miles from River du Loup.

This route was originally surveyed and reported upon by Major Robinson R. E., and a seventy mile section along the Bay Chaleur was re-surveyed by Mr. Sanford Fleming, C. E., in 1864, whose report furnishes the following information:—

"An estimate may similarly be formed of that portion of the Bay Chaleur line which was re-surveyed last summer up the valley of the Metapedia and in length 70 miles."

"The estimated cost of this 70 mile section is \$2,785,000, including a mileage proportion of all the charges necessary to complete the line and put it in operation. The average cost per mile of this section is therefore \$39,786, and as Major Robinson and Captain Henderson considered it the most formidable portion of the whole route between Halifax and Quebec, it would probably give a maximum and safe estimate of the cost of the route to which they refer."

THE CENTRAL ROUTE (*Vide Map,—Tinted Green*)

diverges from the "North Shore" at the Trois Pistoles River,—which flows through a rocky gorge 150 feet in depth and of considerable width,—and follows the Eastern branch to Island Lake; thence to Eagle Lake, and in an easterly direction to the valley of the Touradi, a tributary of the Rimouski River, and entering the valley of the Snellier River it pursues a southerly course to the valley of the north branch of the Toledi River, and along this branch to Echo Lake; it next follows a tributary of the Rimouski River, and crosses the Canadian boundary 90 miles from River du Loup; [the Frontier route crosses the Canadian boundary 67 miles from River du Loup]; thence to Lake Tiarks, and passes on to the valley of the Green River until it reaches the Green River Lakes; then follows

the valley of the N. W. Branch of Green River to the Forks ; thence by the S. E. branch, and the mouth of Otter branch to Larry's Lake ; thence over the summit and along the valley of the Gounamitz, a tributary, to its confluence with the Restigouche River, 139 miles from River du Loup. Crossing the Restigouche the line seeks the valley of the Boston Brook, continues southerly to a branch of the Jardine Brook, and thence along the head waters of Grand River, and over a summit to Salmon River which is crossed, as also various branches of Cedar Brook ; thence it follows two brooks to the north bank of the Tobique River 178 miles from River du Loup. Crossing the Tobique the line ascends the valley of the little Gulguaac, and passes over a ridge to the little Wapsky River ; it next crosses the Wapsky where a bridge of great magnitude will be required ; thence over a summit by the head of Ovenrock Brook, and entering Frank's Brook to the valley of the North branch of the Miramichi River, which it follows, crossing the river twice, then strikes across a Cariboo plain to the N. W. branch of the Miramichi ; crossing this west of the Forks the line ascends by Turtleshell Brook, and over the summit to the Nashwaak River, which it follows on the west side, and continuing southerly by one of the Two Sister Brooks, reaches the Keswick summit 232 miles from River du Loup. The line next enters the Keswick valley by the west branch, and runs on until the River St. John is reached ; then follows the river bank down to the mouth of the little Nashwaak, which it crosses, and pursues the river bank reaching the upper and lower Fredericton Ferries, and arrives at the main Nashwaak River 272 miles from River du Loup. Crossing the river the line leaves the St. John bank and makes for Little River ; then continues to the head of Grand Lake navigation on the Salmon River ; crossing this the line curves southerly, and passes over a ridge to Coal Creek, and follows a southerly direction over a favorable country ; crosses Canaan River at Long Rapids, and then by Porcupine Brook to Long's Creek Ridge, and still continues on a southerly course entering Chowans's Gulch which leads to the valley of Studholm Mill Stream, following which it joins the European and North American Railway at the Apohaqui Station, 360 miles from River du Loup.

Mr. Sanford Fleming states in his Report, that the section between Trois Pistoles and the Green River can be shortened on re-survey by at least 20 miles, and that a great deal of careful surveying will be required on this section. The total length of the Central route he therefore takes as 340 miles, and gives the following total quantities of the grading and bridging which are considered ample for the construction of these 340 miles of road-bed, in a permanent and substantial manner.

Assumed proportion of common excavation.....	12,453,238	cubic yds.
Do. Rock	1,376,695	"
Total excavation.....	13,828,933	"
Culvert Masonry.....	107,725	"
Bridge Masonry.....	49,039	"
Bridge Iron	3,337	tons.

FRONTIER ROUTE. (*Vide Map,—Colored Red.*)

Two lines are projected on the accompanying map converging at Edmunston, one being a continuation from Trois Pistoles, and diverging from the "Central" at Eagle Lake, thence south-easterly by the Toled Lake and the Squatook River and Lake to the Iroquois River; thence down its valley to the east bank of the Saint John River, 3 miles below Edmunston. The second and more direct line leaves River du Loup on a southerly course; following the valley of River Verte, it crosses the Portage Road, and next the Cabineau River near the Falls; thence to the head waters of the Riv. aux Perches, and then by the valley of this stream to the Degele at the foot of the Temascouta Lake; thence along the valley of the Madawaska River, crossing at Little Falls; then entering the valley of the Saint John River at Edmunston to the point of convergence with the Iroquois line; and thence following the eastern bank of the river to the crossing above the Grand Falls; thence along the western bank to Woodstock, 189 miles from River du Loup.

Continuing on from Woodstock, there would be traversed the Woodstock branch 11 miles, St. Andrews Railway 40 miles, and Western Extension Railway 82 miles, to Saint John.

THE WESTERN ROUTE.

This is sometimes called the River Valley route, was first introduced by Mr. Fleming as Frontier line No. 3, and will be referred to hereafter.

EXTENSION OF NEW BRUNSWICK AND CANADA RAILWAY locally called the "Saint Andrew's Railway." Proposed route for extension explored by the writer 1861. [See "Brief Review of Reports on Exploratory Surveys" in Appendix A.]

The route which should command the most consideration, and be best entitled to the vote of the majority in the House of Commons, is that which can be proved, without a doubt, to be, first,—the shortest and cheapest in construction; second,—to have the largest commercial population; and third,—the most local traffic.

These, it is submitted, are the three cardinal points which should form the chief test of the relative advantages possessed by the different proposed routes, and which should govern a decision in the selection of the best for present intercolonial purposes, and future good results.

With these data, now under general discussion, to work upon, and with a view of advocating the interests of the Frontier route, in all these respects, and for the purpose of shewing that it possesses all these needful advantages, this pamphlet has been prepared, and is now published for general information, together with the accompanying explanatory Map of the routes &c., for similar reference.

CONSTRUCTION MILEAGE.

From River du Loup to Truro, by the North Shore route	486 miles.
Do do " Central "	455 "
Do do " Frontier "	304 "

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To build by the "North Shore" there would be an excess of 31 miles, over the "Central;" or to build by the "Central," there would be an excess of 151 miles over the "Frontier."

TRAVELLING MILEAGE NO. 1.

From River du Loup to Halifax by the North Shore route 547 miles.
 Do do " Central " 561 "
 Do do " Frontier " 587 "

The additional mileage travelled over by the "Central" is 14 miles in excess of the "North Shore"; and the additional mileage travelled over by the "Frontier" is 26 miles in excess of the "Central."

To accommodate the public with 14 miles less travel and freightage by the "North Shore" it would be requisite to build 31 miles @ \$39,785, = \$1,233,366; and to accommodate the public with 26 miles less travel and freightage, by the "Central", it would be necessary to build 151 miles @ \$46,000 = \$6,946,000: the interest on this amount at 6 per centum per annum would be \$416,760, which should be considered as sunk annually for permanently providing such convenience, which, in the matter of time saved would be about one hour and fifteen minutes between Quebec and Halifax.

TRAVELLING MILEAGE NO. 2.

From River du Loup to St. John by North Shore route, 460 miles.
 Do do " Central do 379 "
 Do do " Frontier do 322 "

Here the accommodation offered is just reversed, the "Central" having 81 miles less travel than the "North Shore" and the "Frontier" 57 miles less than the "Central".

Upon the completion of the Windsor and Annapolis Railway to Victoria Beach in Nova Scotia, another line of travel will then be opened to Halifax via the present Steamboat route between Saint John and Digby, which will compare as follows:—

TRAVELLING MILEAGE NO. 3.

From River du Loup to Halifax, all rail, North Shore route 547 miles
 Do " rail & water Central " 497 "
 Do " do Frontier " 457 "

Thus out of three lines of route compared with regard to travelling distances, *two* have the mileage in favor of the "Frontier."

The relative cost of Construction will next be considered.

NORTH SHORE ROUTE.

371 miles from River du Loup to Moncton,	@ \$39,786.....	\$14,760,606
115 " " Moncton to Truro,	@ \$46,000.....	\$5,290,000
		<u>\$20,050,606</u>

Reduced to Sterling is.....£4,117,168

CENTRAL ROUTE.

455 miles from River du Loup to Truro,	@ \$46,000.....	\$20,930,000
--	-----------------	--------------

Reduced to Sterling is.....£4,300,000

FRONTIER ROUTE.

189 miles from River du Loup to Woodstock @ \$33,400.....	\$6,312,600
115 " from Moncton to Truro, @ \$46,000.....	\$5,290,000

	\$11,602,600
Proposed purchase of Woodstock Branch 15 miles, ..	\$ 176,000
Do. St. Andrews Railway 40 "	\$ 700,000
Repairs and Renewals on do. do. }	\$ 100,000
including additional Sidings & Station Buildings }	
	\$12,578,600

Reduced to Sterling is.....£2,582,874

From the foregoing comparative statement, it is evident that while the North Shore and Central lines cannot be built for three millions of pounds Sterling, the Frontier line can be built £417,000 less than the Imperial Guarantee, including even the purchase of fifty-one miles of existing railroad, and a large outlay for repairs upon forty miles of the same.

Again, the interest on £4,300,000 at four per cent is£172,000
and on £2,582,874 at six per cent is.....£154,972

Interest saved per annum on Frontier line..... £17,028

So that irrespective of any Imperial Guarantee, the Frontier line would still cost much less for one year's rate of interest at 6 per cent than the "Central" at four per cent. This leads to the consideration of the

PERIOD OCCUPIED IN CONSTRUCTION.

This at present is, of course, a matter of uncertainty, but assuming that it will occupy a period of five years to build either the "North Shore" or "Central," it may safely be predicted, with some degree of accuracy, that the "Frontier" can be finished within three years, thus taking the interest on the cost of the "Central" £172,000 for five years.....\$860,000
and the interest on £3,000,000 @ 4 per cent £120,000, for 3 years, \$360,000

The balance in favor of the "Frontier" would be.....£500,000

To put the matter in a more favorable light for the "Central," let it be supposed that the £3,000,000 only is borrowed first, and that at the end of the third year it will become necessary to borrow an additional £1,300,000 to finish within two years forward: the interest on this amount for two years £104,000

To this amount add the balance in hand on "Frontier"..... 417,126

Total balance in favor of building "Frontier"..... £521,126

In addition to this should also be considered the saving of all the contingent expenses upon construction during a longer period of two years; the difference in the amount of interest on the cost of construction thus shown might properly be added, in equivalent dollars, to the sum of \$416,760, before mentioned, as the annual cost of conveying the public and freight over 26 miles less rail.

The opening of a through communication with Quebec and Halifax by a Frontier route two years earlier than could possibly be contemplated by either a Central or North Shore route, is surely a matter of very great and grave importance to the Provinces, as they will so much the sooner participate in the numerous benefits that will be derived from the more rapid construction of the first great public work of the New Kingdom of Canada.

POPULATION.

In estimating the number of inhabitants per mile of railway on each proposed route, the population of the parishes through which the lines are projected is considered as a concentrated enumeration, bordering within a ten mile belt upon each side of the road through the New Brunswick division only,—a per centage increase since last Census being allowed.

NORTH SHORE ROUTE.				POP.
COUNTY OF RESTIGOUCHE.—	<i>Parishes.</i> —Elden, Addington, Dal-			} 5,000
			housie, Colburn, Durham,	
"	Gloucester,	"	Beresford, Bathurst,	} 6,314
"	Northumberland,	"	Newcastle, Northesk, Der-	
			by, Nelson, Blackville,	} 9,550
"	Kent,	"	Harcourt, Carleton, Weld-	
			ford, Wellington, Dundas,	} 10,587
	Westmorland,		Moncton,	
				2,845
Total				34,296

Length of road to be constructed in New Brunswick to Moncton 205 miles, with 167 inhabitants per mile.

CENTRAL ROUTE.

This must be considered as all wilderness until the Settlement of Stanley in York County is reached.

COUNTY OF YORK.—				Parishes,—	POP.
				Stanley, St. Mary's, Douglas,	}
				Queensbury.	
"	Sunbury,	"		Maugerville,	732
"		"		Sheffield,	1,145
"	Queens,	"		Canning, Chipman,	}
"		"		Waterboro', Johnson,	
"	Kings,	"		Studholm,	2,919
Total					19,255

Length of road to be constructed in New Brunswick 270, having 72 inhabitants per mile.

FRONTIER ROUTE.

COUNTY OF VICTORIA.—				Parishes,—	POP.
				St. Francis, Madawaska, St.	}
				Basil, St. Leonard, Grand	
				Falls, Andover, Perth,	
"	Carleton,	"		Kent, Wicklow, Peel, Si-	}
				monds, Brighton, Wakefield,	
				Northampton, Richmond,	
				Woodstock,	16,777
					24,680

Add population of Aroostook Townships, State of Maine, taking only two ranges back from Boundary Line..... } 16,600

Total 41,280

Length of road to be constructed in New Brunswick 122 miles, having 338 inhabitants per mile; of this number Aroostook furnishes 136 per mile.

Taking the "Frontier" population per mile in the Province only as a datum for calculation, the proportionate population on the North Shore route should be 143 per mile in excess of what it really is, and on the "Central" 377 per mile, additional, to bring either upon an equality with the "Frontier."

LOCAL TRAFFIC.

As introductory to the consideration of the third essential, it will not be out of place, or at all superfluous, to give a brief sketch of the character and resources of the North Shore Counties, more especially for the information of the Canadian reader.

Restigouche County contains an area of 1,500,000 acres. Of this quantity there are, probably, improved, 10,000; the wilderness portion is timbered with Spruce, Beech, Birch, Pine and Maple. The general appearance is mountainous; the agricultural character of the land is said to be the best in the Province, with the exception of Carleton County.

Many of the streams that flow to the bay afford excellent water-power facilities for mill machinery.

The principal town is Dalhousie, where ship-building is sometimes carried on.

Minerals are scarce, Limestone and Marl are, however, abundant, and a good grindstone quarry is found at the mouth of the Restigouche.

The principal exports are squared timber and lumber. The extensive inland water communications have given this county great advantages for the squared timber trade.

The Exports last year were 2,796 tons, Pine Timber,
3,684 " Birch "

5,669,650 superficial feet sawn lumber.

In 1865 the value of Imports was \$85,362—Exports \$114,568. The Fisheries during the year 1861 were valued at nearly \$12,000.

Gloucester County has an area of 1,937,440 acres. Of this, there will be under improvement 20,000 acres. This county does not compare very favorably with Restigouche, as an agricultural district: the land as a whole is of a "light, dry and hungry cast," except along the seaboard and the margins of some of the streams. Bathurst is the chief town, and centrally situated, possessing many maritime advantages, and is surrounded by good agricultural settlements, but the land along the Nepisiguit River is pronounced to be unfit for farming. The forest consists of Spruce, Pine, Haematac, and other timber. This county, like Restigouche, is devoid of

Coal, but Limestone, Marl, and Manganese are found. Lime has been made to the extent of 3000 casks per year.

To the eastward of Bathurst are some very extensive Grindstone Quarries of a superior quality. Upwards of 20,000 Grindstones have been shipped during the year to the United States.

The Fisheries exceed those of any other Shore County, for all kinds. The Salmon Fishery is very extensive and valuable. Of the barrelled fish, Salmon inclusive, the quantity during a year will amount to upwards of 7,000, at an estimated value of \$20,000 of Codfish, the quantity taken is equal to 23,000 quintals valued at \$65,000.

Last year the Exports in Lumber were 550 tons Pine Timber.

158 " Birch "

4,480,000 sup. ft. Sawn Lumber.

In 1865, the value of Imports was \$116,033,—Exports \$103,749.

Northumberland County contains an area of 2,980,000 acres. The average of improved land is upwards of 30,000, leaving still in a wilderness state a vast tract of 2,950,000. Previous to the great Miramichi Fire in 1825, this county was the scene of extensive lumbering operations for many years. This deplorable fire destroyed upwards of 4,000,000 acres of the best timber region in the Province, the loss sustained being estimated at £500,000. This county suffered severely, and became a desolated tract, the virgin soil being completely destroyed. Since then, however, there has sprung up a fine growth of Beech, Birch, and Maple.

The topographical character of the county is marked in some parts by undulating ridges, with alluvial valleys between, but the general face is comparatively level. Its agricultural capabilities are not highly estimated, but there are districts along the seaboard and rivers where opportunities for producing grain are all that can be desired; and where the attention of the farmer is not divided between lumbering and fishing, the cultivated portions are as productive as in any other county. The chief portion of the population, however, are more dependent on the fluctuating operations of shipbuilding and lumbering than upon a permanent farming occupation.

The principal towns are Chatham and Newcastle, situated on the Miramichi River 28 miles from its mouth, the latter town being 4 miles higher up stream. At both places shipbuilding forms an important branch of industry.

The county is rather destitute of minerals. If any exist, the precise localities are yet unknown. The only Limestone burnt is that which is brought thither in ships as ballast.

The Fisheries are also a source of industrial occupation. The quantity of barrelled fish of all kinds secured will average 5,000 in the year, at a value of \$14,000. The value of Salmon caught is upwards of \$16,000, and that of preserved fish in tins \$7,000.

The Exports in Lumber from Chatham in 1866 were

2,593 tons Pine Timber, 1,320 tons Birch 21,844,200 }
and from Newcastle 1,460 " do. 1,283 " " 22,695,250 }
superficial feet of sawn lumber.

In 1865 the value of Imports at Chatham was \$267,286,—Exports \$239,012
Do. do. do. Newcastle \$139,086. " \$160,786

Kent County has an area of 1,026,400 acres ; and fully 640,000 acres are still vacant. The country is settled all along the sea-board, and along the principal rivers and streams, which are navigable from 15 to 25 miles into the interior. The Richibucto River is navigable for steamers of light draft for 40 miles from its mouth.

The general feature of the county is level, and the agricultural capabilities, as regards extent and quality of soil, are most excellent. One third of the population are Acadian French. The estimated value of the Fisheries on the seaboard is \$52,000. This county is also devoid of Minerals. Although within the Coal region, but little has been found ; there are no workings. The principal ports of entry are Richibucto, and Buctouche. Last year the Exports in Lumber from both ports, combined, were 115, tons Pine Timber, 156 tons Birch, and 20,563,000 superficial feet of Lumber.

In 1865, the coupled value of Imports was \$68,942,—Exports \$192,438. The total amount of tonnage registered of vessels built in 1865 is as follows : Dalhousie 1 vessel, 627 tons ; Bathurst 6 vessels, 2,334 tons ; Newcastle, and Chatham 15 vessels, 10,536 tons ; Kouchibouguac 1 vessel, 356 tons ; Richibucto 5 vessels, 2,905 tons : in all, 28 vessels, 16,758 tons. The shipping business in 1865 at these ports is thus represented :—

Vessels British and Foreign arrived with cargoes and ballast,—
Dalhousie 219—44,628 tons. Bathurst 149,—19,484 tons.
Chatham 319—61,936 " Newcastle 160,—38,486 "
Richibucto 266—48,715 Bathurst 91—11,813 "

Total 1204 vessels,=225,212 tons.

Cleared with cargoes same year.

Dalhousie 178—44,140 tons, Bathurst 131—22,062 tons.
Chatham 193—50,108 " Newcastle 196—57,174 "
Richibucto 264—53,777 " Buctouche 125—14,042 "

Total 1087 vessels,=241,303 tons.

The yearly agricultural produce of the parishes in each county, through which, as before observed, the North Shore route is projected, is shewn by the following tabulated statement:—

Name of County.	Hay Tons.	Oats Bush.	Potatoes Bush.	Turnips Bush.	Butter Lbs.	No. of Parishes
Restigouche.....	4,517	77,851	130,537	16,795	70,874	5
Gloucester.....	5,423	59,074	161,944	18,172	57,998	2
Northumberland,	9,712	123,189	158,680	31,315	129,000	5
Kent.....	5,825	128,580	301,013	18,170	119,463	5
Westmorland. ..	4,452	31,991	65,455	9,930	55,895	1
Totals	29,929	423,685	817,629	94,282	443,220	18

The number of Manufactories in the same parishes are:—Saw Mills, steam and water power, 55; Grist Mills, 34; Carding Machines, 9; Tanneries, 13.

The natural inference to be drawn from the foregoing, is, that regardless of any railroad, the Northern and Eastern sections of the Province have a very extensive ocean commerce along the seaboard. Taking 205 miles of country between Glenlivit at the mouth of the Restigouche and Moncton, there are eight ports, or one to every 26 miles. The proximity of the Eastern ports to the proposed railway route averages about 16 miles, while the rivers that flow to the Gulf are navigable for a much greater distance into the interior. At all of these places the business of shipbuilding is extensively carried on, as also the exportation of square timber and lumber, with corresponding importations. The lumbering operations are therefore of no small magnitude, and at the different stations the fisheries also offer seasonable employment to many; but as regards lumbering, and shipbuilding,—farming is, in comparison, but a tertiary consideration. With such a business directly to and from the seaboard, at so many outlets it may be questioned what would constitute the permanent local traffic along this section of the North Shore route? What heavy freight would pass these ports along a railway, or what would come or go from any one point to the other within the same extent of road? What would be forwarded to, and shipped at Shediac or Halifax that they do not already monopolize? Provisions to a very limited extent would be purchased in Quebec or Halifax by the lumbering operators, as the probabilities are that they could be obtained, for one profit, more cheaply in the United States, and freighted, at small cost, in vessels that would otherwise arrive in ballast.

The actual amount of traffic between Quebec and Shediac as represented by the returns of the Steamship *Arabian* which was subsidized by the Provincial Government to run between these ports, touching at four of the intermediate ports was in 1860,

	1860,		1861 :—	
	Down	Up	Down	Up
Number of Passengers	456	494	436	547
Estimated barrels of Freight	10,000	2,000	11,500	3,000

The number of trips per week had subsequently to be reduced to one trip each way, and finally the steamer was withdrawn altogether.*—[See Statement of Purser, Appendix B.]

No great amount of ship timber or lumber would be sent over the rails to Halifax when all the timber can be so readily stream-driven and manufactured at these ports of shipment. There could be no possible advantage in the rates of freight to England from the Eastern terminus that would warrant such a course; and as branch lines to these ports are not contemplated in the general scheme, it would not

* There has since been placed on this route the "Secret" an old blockade runner and a very swift boat.

be reasonable to suppose that the present route was proposed, and is now advocated, with a view of directing the chief business from these thriving ports in favor of Halifax, or of creating even a competitive manufacture in the wilderness without the influx of a much larger population. This route would doubtless command a through European travel, and a local passenger traffic. The chief recommendation is, that there are 14 miles less rail to travel over, as previously shewn, than by the "Central." It has been said, as a specious argument, that being the longest line to build, there would be all the more money spent in the Province. This is fallacious. In the first place, there would be 65 miles more line to build by the "Central" in the Province, than by the "North Shore", and in the second place, if built by the "North Shore" it is contended that there would be much less money spent within the Province than anticipated, simply on account of the many facilities offered by the numerous North Shore ports for doing an American trade for the future railroad, as for all present operations. The Americans would reap the golden harvest. Again, the earnings of the road should at least be equal to the cost of maintenance; in other words, the road to be a success at all must be self-sustaining. Now it is known that the winters are generally very vigorous along this region,—that the snow falls five feet in depth, that the Northern ports are closed during these months, and the lower Eastern ports for one half this time. The cost of keeping open the road on 31 miles of additional track during the winter season, and the necessary repairs required the following summer, would form no inconsiderable item of additional expenses. If this could not be feasibly accomplished, the result would probably be, that the trains would be snowdrifted and frozen in for a whole winter.

THE CENTRAL ROUTE. Although this route has a greater number of advocates than the "North Shore," it is equally objectionable as a winter road through a wilderness country. It has much fewer inhabitants per mile than either the "North Shore" or "Frontier," and its cost in the aggregate is even greater than the "North Shore." Still the local traffic in timber and manufactured lumber would be extensive and in favor of the port of St. John, while the up freight to the woods and settlements would be commensurate with the extent of the lumbering operations.

The chief argument used in favor of this line is, that it would open up for settlement the central portion of the Province. It will not be denied that it would serve as a fine avenue to a great estate; but the building of the road belongs to the present; the settlement of the country pertains to the distant future.

A leading journal in St. John practically views the point, and pithily remarks:—

"Along the River St. John and round the North Shore of the Province we have some population: in the centre of the Province we have none. The centre route would traverse a section of the Dominion, both in Lower

Canada and in New Brunswick, that is yet a wilderness. To talk of putting a costly railroad through such a country for the mere sake of opening it up, is to talk folly. Let it first be opened up by good common roads. Instead of building a railroad where there are no settlers, in the hope that you may induce them to come, common sense would dictate the more prudent course of building a railroad through those districts where it is most needed for the present wants of the people who have to pay for it."

The foregoing is fully endorsed by J. W. Lawrence, Esq., of St. John, who has addressed two letters to the Minister of Public Works, on the subject of "Route." In his second letter he says,—“Railroads are expensive to maintain as well as to construct, consequently they should follow population and not precede it. They should be located as near the centre of population as practicable, and on such routes as will attract and not repel traffic and travelling.”

The Central line cuts off the western corner of Restigouche County, passes through the centre of Victoria, and then by the Northeast corner of Carleton into York. The population of the first three counties does not practically affect the Central route, inasmuch as it is a river population, and the "Central" passes 20 miles to the rear and through the wilderness.

In Carleton County, and since the last census was taken, a new parish has been established, that of Aberdeen, which with a portion of the Parish of Kent comprises the Association Settlements of Glassville, Johnsville and Knowlesville, occupying 993 lots of 100 acres each. 513 lots are still vacant and are without any roads: 4000 acres are now under cultivation, which but a few years ago were quite unknown to any settler.

The Counties of York, Sunbury, and Queens are each intersected by the St. John river: the population of each one is therefore thus separated.

In the County of York, a large tract of land, comprising 550,000 acres, was purchased from the Crown by the New Brunswick and Nova Scotia Land Company. This tract stretches from the St. John to the Miramichi River. The land is said to be of a superior description, and is well watered. It is disposed of in lots of 100 acres, or more, at the rate of 90 cents an acre. The first settlement formed was Stanley, on the Nashwaak river, 25 miles from Fredericton.

The principal rivers are the Keswick and the Nashwaak. The "Central" route, as projected, follows the valley of the Keswick, and crosses the Nashwaak at the mouth; thence to the head of Grand Lake, in Queens county. This is the Coal region, and the workings are carried on to some extent.

The Coal is found near the surface, in seams of about twenty inches in thickness, and although shafts have been sunk to a considerable depth, no good working seams have been found. It is chiefly used in the Province for Blacksmiths' purposes. In 1865, there were shipped to the United States 529 tons valued at \$2,600; and to Nova Scotia 453 tons, valued at \$1,907. This county also possesses Limestone and Iron ore, the former is

abundant on both sides of the main river below the mouth of the Washademoak River, which is the Eastern tributary.

The yearly Agricultural produce of the parishes bordering on the Central route is given in the following tabulated statement:—

Name of County.	Hay Tons.	Oats Bush.	Potatoes Bush.	Turnips Bush.	Butter Lbs.	No. of Parishes
York.....	19,438	166,417	143,657	34,770	300,333	4
Queen's.....	8,601	66,318	91,688	6,937	145,692	4
King's.....	7,474	62,908	71,267	16,695	122,850	1
Sunbury.....	6,067	26,936	37,207	10,027	62,053	2
Totals	41,580	322,579	343,819	68,429	630,928	11

All the above will be a source of local traffic in addition to lumber, &c., &c.

The number of Manufactories in the same parishes are, Saw Mills, 47; Grist Mills, 39; Carding Machines, 6; Tanneries, 6.

FRONTIER ROUTE. That from River du Loup, by the Western side of Temiscouta Lake and the Madawaska, being 189 miles to Woodstock, will be considered.

It may first be mentioned that the other route from Trois Pistoies to the Iroquois River on the Eastern side of the lake, [*See Map*] is through an impenetrable forest. There is but one known solitary occupant of the woods in the vicinity of the lake, and he is called the "Hermit."

The western side of the Temiscouta Lake presents quite a pleasing contrast being settled all along the Portage road, and well cultivated. Between the Canadian frontier and River du Loup there are upwards of 950 families, which at a very small average for the inhabitants of five to a family would give a population of 4750. On this side of the lake, and 27 miles from River du Loup there has been recently erected a Saw Mill, Grist Mill, and Carding Machine. On the 51st mile there is another Saw Mill, and near to this a Potash Factory.

The traffic along the Portage Road is very great, and continues a steady stream night and day. The writer when visiting this district, was assured that no less than one hundred single teams pass daily each way during the winter months, carrying all sorts of merchandize, each team averaging 600 pounds. The freight from Edmunston to River du Loup, 79 miles, is two dollars per barrel, or at the rate of one dollar per hundred weight. The summer travel and traffic is also very considerable. The writer having journeyed as far as Clutiers on the 48th mile from River du Loup, was convinced of its magnitude during the course of two days. In addition to this traffic, upwards of 2000 head of horned cattle and sheep are driven over. The road is maintained in good condition. Last year the Canadian Government had 2000 bushels of flax seed imported and distributed among the lake settlers at prime cost in order to encourage its growth. The flax is now taken to River du Loup, or Quebec, and exchanged for salt two sacks of salt, (equal to six bushels), being received for one bushel of flax.

At Baker Lake, near the Cabineau Lake, and extending about eighteen miles down to the Iroquois River, there is a belt of Slate-rock, said to be

equal to the Bangor Slate by men who have worked in the Brownville quarries, and is now being used in the schools throughout the Madawaska and St. Francis parishes.

[It may here be mentioned, with regard to the Brownville quarries, that they are two in number, and distant apart, east and west, about one mile. The east quarry extends 250 feet from north to south, and is worked to a depth of about ninety feet. The average amount taken from this quarry annually is about 15,000 squares. The west quarry is 200 feet in width, and is worked to a depth of eighty feet; the depth of rubbish, or rock of poor quality first removed being about fifteen feet. Value at Bangor per square, \$4.50 to \$5.00 (in 1861). Cost per square for transportation, \$1.50. Profits per square, 50 cts. to \$1.00.]

Eighteen miles up the River St. John—above Edmunston, on the St. Francis road—there is an extensive settlement on the American side of the river, taking its name from the tributary stream at this point, viz: Fish River, in the township of Fort Kent, the population of which is about 750. Here there are two Saw Mills, one Grist Mill, three Clapboard and three Shingle Machines. In the next township above, No. 17, there is a Saw Mill and Grist Mill; and between Fort Kent and Edmunston, there are five Mills, Saw and Grist. Lumber is manufactured for a distance of 30 miles above Edmunston and rafted down. The quantity of short and manufactured lumber now shipped from Fish River settlement and vicinity is as follows:—1,500,000 sawed Spruce, 5,000,000 sawed Shingles, 10,000,000 shaved Shingles, 1,000,000 Clapboards. Cost of freighting Shingles to the Grand Falls (36 miles below Edmunston), twelve and-a-half cents per thousand; Clapboards, one dollar; Deals, one dollar and twenty cents; per thousand superficial feet.

The two parishes above Edmunston are Madawaska and St. Francis, bordering on the main river. The Frontier line, below Edmunston, passes through the parishes of St. Basil and St. Leonard, the principal rivers to be crossed being the Iroquois, the Green, the Quisibis, Sigas and Grand rivers. Three miles below Edmunston, at the mouth of the Iroquois, there are a Saw Mill and a Grist Mill, also a Shingle and a Carding Machine. Fifteen miles up the Iroquois there are a Saw Mill and a Grist Mill; and on an easterly branch there are two Saw Mills; in all, on this stream, six Saw Mills and other machinery.

The Green River Settlement, situated 9 miles below Edmunston, is fast increasing. At the mouth there is a Saw Mill, Grist Mill, Carding and Fulling Machines; and 20 miles up stream a Saw Mill and Grist Mill are being built.

The Quisibis and Sigas Rivers are as yet without Mills, but they are lumber-driven.

Twenty miles below Edmunston Limestone is abundant. Here a Lime kiln and Tannery belong to one proprietor. Formerly the kiln produced 600 bushels per year, but it is not now worked. The business done at the

Tannery has decreased of late years in consequence of the cattle having been bought up for the American market. Previously, as many as 1500 Hides have been cured during the course of a year. The number is now reduced to about one-third.

At the Grand River, 15 miles above the Grand Falls, the business of Shingle-making has been recently commenced. There are two establishments, and they will this year turn out a total of 8,000,000 Shingles. The cedar logs are driven down the Grand River.

One mile further down, and on the American side of the St. John River, at Violet Brook, in the township of Van Buren, there is an important settlement. In this locality there are two Grist Mills, one Saw Mill, two Clapboard Machines, a Shingle and Lath Machine.

The quantity of manufactured lumber turned out from this place in the year is as follows:—700,000 Pine and Spruce Clapboards, 7,000,000 shaved Cedar and Pine Shingles, 3,000,000 sawed Shingles, 100,000 Pine and Spruce Boards for use in the neighborhood, and 100,000 Laths.

The cost of freighting Shingles to the Grand Falls is ten cents per thousand; Clapboards eighty cents per thousand.

The Shire town of Victoria County is Grand Falls. Here the accumulated waters of the Upper St. John River are discharged over a rocky precipice to a depth of sixty feet, then rush through a rocky gorge about 250 feet in width for a distance of half a mile, with a descent of sixty feet more, making a total fall of 120 feet between the head water and the lower basin. The Falls are now spanned by a suspension bridge. Between the upper and lower waters there is a portage, along which the trade of the Upper St. John, with the exception of logs and squared timber, has of necessity to pass; so that all the lumber manufactured above the Grand Falls, has, on arrival at the Falls, to be taken out of the river and hauled round to the lower basin, a distance of nearly a mile, and then re-raftered for Fredericton. And on all logs and squared, timber driven over the Falls there is a loss of at least 12½ per cent.

The number of horses employed this season in hauling round the small lumber has been upwards of forty.

Twelve millions of Shingles, in addition to the quantities already mentioned in the Upper St. John, have been hauled to the Grand Falls in the course of the season and rafted to Fredericton; and for the purpose of forming rafts for small lumber, 3,000 Spruce logs have been hauled out across the line from the American side.

The cost of hauling round the Falls on the portage and transporting to Fredericton is, for Shingles, twenty five cents per thousand; for Clapboards, one dollar and twenty-five cents per thousand, and the same price per thousand superficial feet, for Deals and Boards. The cost of hauling squared Pine and Birch timber by the Falls, and sending in rafts to Fredericton is, on an average, seventy cents per ton for Pine, and ninety cents per ton for Birch.

At this place the Victoria Saw Mills manufacture, in the course of a year, 2,000,000 superficial feet Boards and Deals, and 500,000 Clapboards, in connection with which an excellent Grist Mill is in operation ; and a Carding and Felling Machine, together with a Lath and Shingle Machine, are being established.

The duties on Imports during 1866 amounted to \$1,264.

The "Frontier Line" would cross the Saint John River about a quarter of a mile above the Falls, at a point where a ledge of rock rises from the centre of the river-bed, and suggests the place for bridging ; thence along the western bank of the river, crossing the Aroostook River 20 miles from the Falls ; and thence 4 miles further to the village of Andover, situated about a mile below the mouth of the Tobique River.

The Aroostook River has its source near the head of the Penobscot River in the State of Maine, and is navigable with rafts for about one hundred miles. Five miles of this stream, from the mouth, are within Provincial territory. The valley of this river is the most notable in the State for its timber, and the richness of its soil.

The next largest tributary to the St. John is the Tobique on the eastern side. It extends 100 miles to its source in a northeasterly direction. About 70 miles from the mouth it branches off into the Little Tobique and Campbell's River. It has an Indian village at its embouchure.

The business of the main river at Tobique Station, derived from American sources, during the past season, was 20,000,000 Shingles and 100,000 Clapboards, together with a large quantity of Deals and Scantling, probably 250,000 superficial feet. The Shingles are hauled from seven to seventeen miles from the Aroostook country. The value of merchandise which passed through to the Aroostook last year was upwards of \$23,000.

On the River Tobique there are four Saw Mills, two Shingle and two Clapboard Mills, and one Grist Mill. There is a great growth of Cedar up river ; and a large trade in Shingles will eventually be opened up when stimulated by railway transit.

In addition to the American trade, a distinct and extensive business is done here by Benjamin Beveridge, Esq., M. P. P., whose lumbering operations on the Tobique and Salmon Rivers and their branches, are of long standing. For the last three years the average value of his exports has been \$31,533, and the average value of his imports during the same term, \$30,300. The exports include all descriptions of lumber, the largest portion being Spruce logs and Birch timber in the square, all of which goes to St. John.

The cost of rafting Shingles from Andover to Fredericton, 115 miles, is fifteen cents per thousand. The Steamboats were offered twenty cents, it being a great marketable advantage to have them kept dry, but the owners refused to take any for less than twenty-five cents per thousand : 800,000 Shingles are generally put upon a common raft. The freight on Clapboards

to Fredericton is \$2 per thousand, and the same price for Deals or Boards : the Steamers charge this price also. Clapboards are generally freighted on log "bottoms," or on Deal rafts.

Log rafting and running to Fredericton costs one dollar and twenty-five cents per thousand superficial feet, and an additional fifty cents to Saint John.

The number of Tow-boats that ply between Fredericton and Grand Falls is about 35. They carry 150 barrels at 250 lbs. each. There are three Steamboats on the same route.

Shingles and Clapboards and all other short lumber are taken on Wood-boats from Fredericton to St. John, the usual rates for freight being,—Shingles, fifteen cents per thousand ; Deals, sixty cents per thousand superficial feet.

The subjoined statement will convincingly shew the "Frontier" trade in small lumber alone on the River St. John *above* Fredericton, which, of course, is materially swelled by the trade from the Aroostook County to the river, and included.

SHIPPED THROUGH THE CUSTOM HOUSE.

Year.	Shingles.	Clapboards.	Laths.	Pickets.	Boards.	Deals.	Period.
1865	42,703,225	367,475		10,000	452,8000	15,000	12 Mos.
1866	58,931,050	1,497,485	4,459,700	120,000	406,000	75,000	12 Mos.
1867	25,565,000	288,500	3,646,000	10,000	518,500	219,618	8 Mos.

The value of Exports or removals through the Custom House for 8 months to the 20th of June is \$17,690.83, chiefly American goods, but is only a fractional part of the amount of goods that go up river.

The value of Imports at Fredericton in 1865 was \$100,057, and of Exports \$96,020.

The next river of importance, twelve miles below the Tobique is the River de Chute. A large Saw Mill formerly erected at the mouth was recently destroyed by fire. Another will shortly be raised in its place. A second Saw Mill and Shingle Machine are situated a mile up stream, furnishing 400,000 superficial feet of Pine lumber, and 1,000,000 of sawed and shaved Shingles in the year.

Below the River de Chute and on the opposite side of the main river is the Munquart River, upon which 5 additional Shingle Machines have been established since 1861 : and lower down on the Little Shiketehawk in the Parish of Peel, a Company have purchased a lot of land from the Government, with a view of working the Iron ore thereon, at no distant day. The ore is said to be of excellent quality, and of large per centage.

Florenceville situated 26 miles above Woodstock, is a village of some importance, and has sprung up within the last few years : in the neighborhood are four Saw Mills, three Grist Mills, one Clapboard Machine, three Shingle Machines, three Carding Machines and two Tanneries. The quantity of sawn and shaved Shingles manufactured in the year is 19,000,000 and the quantity brought from the American side is 7,000,000. The rafting to Fredericton costs fifteen cents per thousand. There is also exported

from this village and Centreville, another village 3 miles to the rear, in the parish of Wicklow, 58,000 bushels of Oats, 30,000 bushels of Potatoes, and 200 tons of pressed Hay : the freight of these to St. John is at the rate of nine cents per bushel, and two dollars per ton for hay. In the article of Butter, no less than 50 tons weight were sent to St. John Market during the past twelve months : the freight is twenty cents per tub of 50 lbs., or eight dollars per ton.

The value of Imports during the past year to Florenceville and Centreville was, \$70,000.

East Florenceville is situated on the opposite bank of the River in the Parish of Peel. The export in Oats from this side has been 30,000 bushels. The Hay is chiefly used by lumber merchants operating upon the Miramichi River, and at Boiestown, and other places on the river. Limestone is abundant, and was formerly burnt in large quantities.

Here an American Company from Boston have lately established a Mill property, for extracting the essence from Hemlock bark for tanning purposes. They manufacture about 35 barrels of 42 gallons each, per diem : the value at Boston by contract for an unlimited supply is 50 cents per gal., but is there retailed for about 65 cents. The same Company intend to erect a similar Mill at west Florenceville, and have purchased the ground property, and the requisite machinery. In connection with this Mill there will also be established a Clapboard, Lath, and Shingle Machine.

Florenceville supplies the steamboats with wood-fuel during the running season, the average supply being 800 cords ; and similar quantities are likewise furnished along the river at intervals of ten miles. The quantity thus consumed between Woodstock and Grand Falls would reach 6,000 cords. This village also furnishes a Brick-yard. The quality of the clay is pronounced to be fit for an earthenware pottery. Bricks have been furnished to the surrounding neighborhood, and to Woodstock, and some have been forwarded to Boston as a sample of the quality.

Victoria Corner is the next village, and is situated 10 miles above Woodstock. To the rear, on the Little Presque Isle river,—there are four Saw Mills, and three Grist Mills ; there are also two Tanneries. The average number of Hides cured per year is 400. The chief exports are in Grain and Hay ; the principal Shingle business is done on the Becaguimac River immediately opposite on the east side of the main river, where a number of Mills and Clapboard Machines are running. Upwards of ten teams are daily employed hauling the small lumber to Woodstock.

The last estimated value of Imports to Victoria Corner was \$12,000. Woodstock is the shiretown of the rich County of Carleton. It is situated on the St. John River at the embouchure of the Meduxnekeag River which heads in the State of Maine. It is 63 miles above Fredericton, and 121 miles from St. John. The parish contains a population of about 4000. It is the centre of trade for a large extent of country. Lumbering is carried on extensively on both sides of the line by the principal merchants, and the

whole of the up river trade passes by this place on its way to the St. John market. Several thriving villages have within a few years sprung up in this and the adjacent parishes, and throughout this county in many other parishes.

In the town of Woodstock there are 3 water-power Saw Mills ; 2 steam power Planing Mills, driving Machinery for the manufacture of Sash, Door and Window Blind stuff, also Cabinet Ware ; 3 Lath Machines, 2 Grist Mills running six pairs of stones, 2 Carding Machines, and one Fulling Machine. There are also 2 Foundries in operation, turning out Stoves Ploughs, Mill Machinery &c., chiefly for country use. The larger of these Foundries supplies 100 tons of castings during the year.

The Saw Mills turn out 10 millions superficial feet of Deals and Boards, and about 5 millions of Laths. The lumber now driven down the Medux-nekeag River is procured principally on the American side, and is supplied from about six of the Aroostook townships, containing upwards of 120,000 acres of fine lumber lands having a great growth of Pine and Spruce, all of which has no other outlet. The water-power on this river cannot be excelled by any other stream in the county : the falls on the north branch, and the three large falls on the south branch are capable of driving a large amount of machinery.

When the branch railroad from Woodstock is completed, and in running order, lumber can be manufactured, and shipped through the winter season from the ports of St. John and St. Andrew's : the exports will then at least double the present quantity manufactured. Large numbers of Deck Knees Railway Sleepers, Shingles and short lumber, now manufactured, are hauled 7 miles up hill to the Richmond terminus of the St. Andrew's Railway, on the Woodstock and Houlton turnpike. When the up hill hauling becomes no longer necessary, and the branch line is in full operation, the additional facilities will induce an immense business with St. John, over the Western Extension Railway to that city, which hitherto has been, and is now absorbed chiefly by the river.

Cost of freighting Deals and Boards to St. John by river, per thousand superficial feet.....	\$1.10
Damage to lumber by discolouring, and loss by boring, and losing deals.....	\$1.00
Actual cost per thousand feet.....	
	\$2.10

The Boot and Shoe trade has also increased in Woodstock, and is becoming a flourishing branch of business ; this is chiefly owing to the excise tariff, and high rate of wages demanded by journeymen in the United States.

From a Report presented to the Woodstock Athenæum, February 11th 1864, the following information is taken with regard to the mineral resources of the county :—

“Of most of the mineral resources of Carleton County little is as yet known. The presence of Copper over a considerable extent of country has

been known for years ; and Copper Mines have been opened and worked, but not as yet profitably. Limestone is abundant in several districts. Antimony has also been found, besides large quarries of Roofing Slate. But the developement of the Iron Mines has already commenced. The following statistics regarding the present works, and the extent of the minerals have been furnished by Mr. Norris Best, manager of the Charcoal Iron Works at Upper Woodstock. The quantity of wood required for the operation of these works in 1864, is estimated at 12,000 cords, which will strip 400 acres. The estimated production of Pig Iron for 1864 is 2,750 tons, employing at the Mines, and about the furnace and works, seventy five men. Twelve teams with their drivers find constant employment in hauling the ore ; while to cut the wood requires 150 men for twelve weeks, and to haul it, some 60 teams and their drivers for the same time. The down freight of the Pig Iron for 1864 is estimated at \$5,500: the up freight for the works is estimated for 1864 at \$4,500. The belt of ore varies in width, but has an average width of 6 miles. From Richmond it extends across the whole parish of Wakefield, then across the river and extends up the Becaguimac River. Of this vast iron region, covering probably 250,000 acres, the present Charcoal Iron Company have under lease from the Crown 5,760 acres or less than one forty-third part." Again,—“ One of the most important items which Carleton would furnish as freight for a railway would be small lumber. The capacity of this county and Victoria for the production of this description of goods is enormous ; and while a railway would produce an immense expansion of the business, the present production is very great. The Shingle business has also increased wonderfully within a few years. The down river traffic for 1863 was 32,000,000 ing the same year 15,750,000, foreign Shingles, made in the adjoining townships of the State of Maine above Woodstock, were bonded for exportation from the lower ports.”

“ Importation of goods in Woodstock for retail trade.....	\$350,000
Freight paid on goods upwards from Fredericton.....	50,000
Passengers' fare on same route both ways	25,000
Imports into Woodstock for year ending Dec. 31st, 1863... ..	147,123
The Exports from same port for 1862 were.....	\$ 50,617
While for year 1863, they had increased to.....	\$122,070

Another important export from Carleton county is that of Cattle and Sheep for the United States markets. Large numbers of cattle and immense flocks of sheep and lambs are collected by drovers who pass through the county from farm to farm. These are now driven over the road to Bangor, and thence forward to Brighton and other Markets. In 1863 probably some 7000 sheep were thus exported.”

“ More than one half the surface of Carleton lies on the east side of the River St. John. The east has 385,000 acres ; the west 315,000. But the effect which the river has had is shewn in this :—on the western side there are 81,247 acres improved ; on the eastern side but 19,983. On the western side there are in farms, unimproved 190,202 acres : on the eas-

tern only 70,558 acres. And while on the eastern side there remains probably some 150,000 acres of ungranted lands, the Crown has scarcely an acre left on the west."

THE AROOSTOOK COUNTY, State of Maine, has an extent nearly equal to that of the State of Massachusetts, and is capable of sustaining a very large population. It is now nearly 30 years since the first efficient move was made towards the development of this fertile region, which is now considered the best settling land in the whole State, and, as an agricultural district, is certainly richer than any other section of Maine.

Its resources are commensurate with its extent. Iron ore predominates on the Aroostook River, the supply of Limestone for building or agricultural purposes is inexhaustible. Maple Sugaries are unlimited. Elms, White Birch, and Ash abound; and on the uplands are fine hard wood trees, and lofty Pines; in fact, the country is known to possess every natural advantage that might be required to call forth the enterprise and industry of the farmer, and the manufacturer.

The Aroostook County contributes largely from several townships along and removed from the boundary line, to the general trade of the St. John River. In addition to those of Fort Kent and Van Buren, already mentioned in connection with their exports, are the more important towns of Fort Fairfield and Presque Isle, the former with a population of 1273 has 3 Saw Mills, 3 Grist Mills, a Carding, and Fulling Machine. It exports about 10,000,000 Shingles: the cost of road-hauling them to the main river is twenty cents American currency per thousand. The other exports are Hay, Oats, and Potatoes.

Presque Isle is situated on the river of that name, with a population of 1229, it has a new Saw Mill erected last spring, which manufactures Deals, Boards, and Clapboards. There is also a Shingle and Lath Machine in course of erection. During the past three months the Mill has produced 300,000 Deals and Boards, and 200,000 Clapboards. The cost of rafting to Fredericton is two dollars and seventy five cents per thousand. This however, is now by contract and is considered rather a low tariff. There is also a large Grist Mill, a Carding and Fulling Machine, and a Sash and Door Factory. A second Saw Mill is being erected 15 miles further up stream. The water power is unlimited; the present dam flows a pond 5 miles in length. The Grist Mill is very capacious, with excellent Machinery; the business during the past year for seven months since last September amounted to grinding 44,000 bushels of all kinds of grain, being equal to 75½ thousand bushels per year. Of this quantity five and half thousand bushels where of Wheat, and 31 thousand bushels of Buckwheat. Twelve months previous to last September the quantity delivered by the former Mill on the same privilege was 48,000 bushels; and ten years previously in 1856, the quantity ground was only 17,000 bushels.

Last year Presque Isle exported Grass and Clover Seed to the value of

\$10,000, at the rate of from three to three dollars and seventy-five cents per bushel.

The township of Limestone, 6 miles below Grand Falls, also furnishes the St. John River with about 7 millions of Shingles, and upwards of 2 millions of Clapboards, together with a large supply of Pine boards.

In the undermentioned townships, embraced within 30 miles of the "Frontier", the population and manufactories, are as thus enumerated:—

Ashland,—Population 1030, 2 Saw Mills, 2 Grist Mills, Brick-yard and and Lime Kilns.

Mapleton, " 290, 2 Saw Mills.

Easton, " 450, 2 do.

Maysville, " 1131, 1 do.

Lynden, " 483, 3 Saw Mills, one Grist Mill, one Sash, Door, and Blind Factory.

Sarsfield, " 784, 1 Saw Mill.

Washburn, " 90, 2 do.

Mar's Hill, " 320, 2 do. 1 Shingle Machine.

Alloa, " 75, 1 do. 2 do.

No. 14, (range 4) " 60, 1 do.

Limestone, " 274, 3 do.

Bridgewater, with a population of 736, is situated next below the township of Mar's Hill on the Frontier, the little Presque Isle River flows through this district, upon which are erected 2 Saw Mills, 2 Grist Mills, 3 Shingle Machines, and one Clapboard Machine; a third Grist Mill is being erected, also a Carding Machine. The Saw Mills turn out 800,000 Deals and Boards; 5 millions of sawed Shingles are also manufactured by 2 Machines. The third is a new one, and but a short time in operation: the number of shaved Shingles will double the quantity sawed. The Grist Mills grind 24,000 bushels of Grain. All of the Shingle lumber is hauled out to the main river along the direct road from the village, about 7 miles.

Monticello is the next border township, with a population of 665, three-fourths of whom were formerly Provincialists. It has 2 Saw Mills and one Grist Mill; the Mills are but recently erected, the quantity of sawed Shingles this year will however amount to one million. The Boards manufactured are chiefly used for country purposes. The shaved Shingles amount to 2 millions, and are hauled by two, and four horse teams through Houlton to the Railway Station at Richmond for 50 cents per thousand.

Houlton is situated upon the south branch of the Meduxnekeag River five miles to the westward of the Richmond terminus, and is the largest frontier town containing a population of 2442. Its manufactories are, 4 Saw mills, with Lath, Clapboard and Shingle Machines, 2 Shingle Machines, 2 Grist Mills, 2 Carding Machines, 1 Foundry and Machine shop, for Stoves Mill work and Ploughs, one Sash and Door Factory, one Furniture Factory, one Plaster Mill, and one Tannery.

The Foundry turns out about 100 tons of castings in the year; the Grist

Mills grind 60,000 bushels of grain, and the Carding Machines have combed during the year 1836, 1613 parcels of Wool averaging, 13 lbs.—in all 21,845 lbs. of Wool. This year there will be carded 2000 parcels, or 26,000 lbs.

The population of the Aroostook County in 1850 was 12529; 1860, 22,449, and is now supposed to be about 36,000. The only markets or outlets open to this vast number of inhabitants, with which no other county in New Brunswick but that of St. John can compare, are, Bangor by road, St. Andrew's by rail, and St. John by river. There are of course, the minor home markets created by the lumbering operations, which to some extent absorb the surplus the farmers have to dispose of, but these vary with the fluctuations of the lumbering interests. Taking Ashland as a central township the respective distances are,—to Bangor 145 miles, to St. Andrew's 118 miles, to St. John 220 miles.

Goods are carried from Bangor to Presque Isle 155 miles for \$30 per ton, and from Bangor to Ashland, 145 miles, by the Aroostook road for \$35 per ton. These rates add materially to the cost of supplies; it is therefore no wonder that a cheaper mode of transport by railway and river would be supported. When the river is frozen the road is sometimes resorted to, besides railway facility from Richmond, but not to one-twentieth part the extent as formerly.

Freight is brought from St. John to Tobique at a rate varying from eight dollars to eighteen dollars per ton. From Tobique to Presque Isle is 19 miles, and 24 miles thence to Ashland. This is the route by which all imports are now chiefly conveyed, and at about one half the cost from Bangor.

The natural channel of communication for the Aroostook County with the seaboard is therefore toward and through New Brunswick to St. John and St. Andrew's; and a portion of the Export and Import trade is now conveyed over the St. Andrew's Railway to the latter port. The continuation of this line from Woodstock to River du Loup cannot fail to offer such convenient access as will command the whole of the American trade of this flourishing and extensive region.

The Secretary of the Agricultural Society in his Report to the Board of Agriculture of Maine, 1865, says:—

“The completion of the New Brunswick and Canada Railway to the Houlton and Woodstock road has completely revolutionized the trade of this county. The road was opened three years ago in July. Now in place of the toilsome hauling of goods from Bangor over the military road to Houlton, we have two expresses per week, via the railroad to Boston. The station is 5½ miles from Houlton village. A fact which fell under my own observation this summer, well illustrates the change wrought. Goods were purchased in Bangor for the supply of lumbermen operating at the forks of the Mattewamkeag River 25 miles south-west of Houlton, and as the cheapest and quickest route to their destination, they were forwarded via St. Andrew's and Houlton. Give to this county the facilities of the

much needed *commercial union with the neighboring Province*, and the people of Aroostook need not ask for a more goodly heritage.

It may further be remarked that goods thus procured at Bangor and forwarded by express have to be sent over the Bangor and Portland Railway to catch the steamer at the latter port, and on their arrival at the Richmond terminus of the St. Andrew's Railway are hauled away by four and six-horse teams, twelve dollars per ton for all sorts of merchandize to Presque Isle and Fort Fairfield, being the general charge.

The cattle trade which passes through Houlton to Bangor is derived from the Counties of Victoria, Carleton, and Aroostook. During the past five years the average number yearly has been 5000 head of horned cattle and 7000 head of Sheep. This would become a large branch of the Export business over a Frontier line.

The Agricultural resources of Victoria and Carleton Counties will now be considered in conjunction with those of Aroostook, for which last there is no positive data. The proportion of each yield per head of population in the former counties has been taken as a fair criterion for arriving per capita on 16,000, of the probable quantities in Aroostook.

Name of County.	Hay Tons.	Oats Bush.	Potatoes Bush.	Turnips Bush.	Butter Lbs.
Victoria.....	9,905	101,730	88,527	14,665	131,598
Carleton.....	29,787	494,583	213,562	73,032	486,711
Aroostook.....	24,900	370,180	187,580	53,120	385,120
Totals.....	64,592	966,493	489,669	140,817	1,003,429

The following statement, on the abstract, will shew the comparative local traffic that each route would receive from an Agricultural source.

Miles in Province.	Route.	Hay Tons.	Oats Bush.	Potatoes Bush.	Turnips Bush.	Butter Lbs.
205	North Shore	29,929	423,685	817,629	94,282	433,220
270	Central....	35,513	295,643	306,612	58,402	568,875
122	Frontier...	64,592	966,493	489,669	140,817	1,003,429

The one objection raised against the Frontier route is its proximity to the American Boundary Line. This is offered as a Military, and not as a Commercial protest. That which is in relation to the one a question of defence, may become in connection with the other a matter of defiance.

Formerly it was the opinion of Military authorities that, for proper defence, railway transportation should be removed as far as practicable from the enemy's frontier, and with this view the North Shore route was first projected as a Military railroad.

Recent events in the strategic movements induced by war, as illustrated abroad and at home, have testified to the fallacy of the former notion, and have shewn that, as a means of defence, the most suitable position for a railroad is along the line of defence, and not at an inaccessible distance to the rear of it.

By whatever route the road is built, if ever attacked, it must be defended;

but the mode of attacking, as practically exemplified during the late civil war, only serves to shew that the more remote railroad can be rendered as readily and easily unfit for travel by a sudden demolition in the least expected quarter as the nearer road to the Frontier.

It seems, in reality, but an idle speculation, and it is to be hoped that we have not yet arrived at the age when the building of a railroad will prove an incentive to war; or the proximity of such a commercial highway to a neighbouring confederation will create and promote the lust for aggrandizement, or a desire on either side for annexation.

There does not seem to exist, at the present day, between the two great nations any source of apprehension that their friendly relations can ever possibly be disturbed, or that a permanent peace, to the most distant future can, in our generation, be ever endangered. Of this there are assurances from various high authorities. First, from the Throne of England. Our Queen tells us through her Lords and Commons:—

“I am happy to inform you that my relations with Foreign Powers are on a friendly and satisfactory footing. I have suggested to the Government of the United States a mode by which the questions pending between the two countries, arising out of the Civil War, may receive an amicable solution, and which if met in a corresponding spirit, will remove all grounds of possible misunderstanding, and will promote relations of cordial friendship.”

Next, at a banquet given by the American Chamber of Commerce in honor of the Atlantic Cable, at Liverpool, March 14th, the American Minister, Mr. Adams, “disclaimed all personal credit for the maintenance of peace between England and America, saying that his course had been dictated by the American Government. He thought that the magnitude of the relations between the two countries was the best guarantee of peace. The Telegraph, he hoped, would strengthen that guarantee, and might ultimately supersede diplomacy, and merge the world into one nation and one language.”

Next, in the House of Commons during the second reading of the Confederation Bill, Mr. John Bright expressed himself as follows:—“In my opinion there is not a part of the world that runs less risk of aggression than Canada, unless in that quarter whence came that foolish and impotent attempt of certain discontented persons from this kingdom who not long ago were subjects of the Queen. America has no idea of anything of the kind. No American statesman, and no American party dreams of an aggression in Canada, or of annexing Canada by force; and therefore every farthing you spend on fortresses, and every other expenditure you incur, with the idea of shutting out American aggression is money squandered from a hallucination which you ought to get rid of.”

Again, the Premier Earl of Derby, at the Ministerial Banquet given by the Lord Mayor of London, August 7th, in the course of his eloquent address said,—“You may rely upon it that so long as Her Majesty’s present advisers have the power of holding their places there is no object to which

their exertions will be more strenuously, more perseveringly, more increasingly, more disinterestedly devoted than to the maintenance of peace and of friendly relations with all the Powers of Europe. We are not a country which has anything to gain from extension of dominion, or from increase of territory. Our interests are the interests of the world at large. They are the interests of friendly relations throughout the world. They are those of peaceful commerce, and of amicable relations, and these are the relations to the maintenance of which so long, at all events, as I have the honor to hold office in Her Majesty's Councils, my attention will most strenuously be directed."

One quotation more, it is from the second letter of Mr. J. W. Lawrence, St. John. The idea is perfect.

"There are no grounds for alarm from our American neighbors. Their commercial, and other interests, are so much in common with ours, and like ours, *all on the side of peace*, that should any disturbing element arise, it will be disposed of in the future as in the past, by the *pen*, and not the *sword*."

THE WESTERN ROUTE CONSIDERED.

This route is ably advocated by Mr. Lawrence in his Letter to the Minister of Public Works, bearing date August 12th, a portion of which, appears in Appendix C. It is Mr Fleming's Frontier line No. 3., Frontier as far as Grand Falls; then diverging to the interior, by the Salmon River, joins the line of exploration made for the extension of the New Brunswick and Canada Railway by the writer, in 1861, and crossing the Tobique River 16 miles above the mouth, to the head waters of the Munquart River; thence by the North-west branch of the Miramichi to the Keswick Valley to Fredericton, as by the Central route. At Fredericton the River St. John will have to be crossed, and here is the chief objection in point of magnitude and cost.

Another objection is, that leaving Grand Falls for the eastward much of the Aroostook trade is lost, and the eastern side of the river is but a wilderness. Mr. Lawrence here departs from his own axiom that railroads should *follow* population and not *precede* it. Again, Mr. Lawrence says, "To ask them [the provinces of Quebec and Ontario] to sacrifice this all important consideration, [a short highway to the ocean] that the International may pass through the wilderness section of New Brunswick to open up a field for settlement for the benefit of that Province would be requiring from them altogether too much." Now No. 3 line runs a distance of at least 60 miles through the wilderness.

If not the shortest, Frontier line No. 1. to Woodstock is proved to be the cheapest and most populous highway to the ocean, and the highway upon which there will indubitably be the most local traffic for the support and maintenance of the undertaking. 40 miles of No. 3 line are identical with 40 miles of No. 1, and what possible objection can there be to the remaining mileage to Woodstock, if no objection is raised on military grounds?

Mr. Lawrence's arguments in support of line No. 3 are all the more applicable and favorable to line No. 1.

If the 40 miles Frontier line should be objected to by the Imperial Government, there would be a necessity to have recourse to line No. 5: because No. 3 line could diverge at St. Basil, and join in on the same line of exploration before mentioned. There would then be only 3 miles of the road near to the frontier with the river intervening.

THE WOODSTOCK AND SAINT ANDREW'S RAILWAYS.

The Woodstock Branch and a portion of the St. Andrew's Railway having been imported into the estimate for the Frontier route, a few words about each will not be out of place.

The grading of the Branch was commenced in the early part of last year, and may possibly be completed this year. The road is 11 miles in length, tapping the St. Andrew's Railway on the 83rd mile at the Debeck Station, at which point the proposed branch from Houlton will also form a junction. The Woodstock Branch is necessarily tortuous, following the valley of a branch of Bull's Creek. The minimum curvature is 2° or 1910 feet radius and the maximum grade is 60 feet per mile. The road-bed is 16 feet wide on embankment, and 24 feet wide in cuttings. The superstructure consists of the fish-jointed rail weighing 56 lbs per lineal yard. The works are being executed in a very substantial manner, under the supervision of Mr. Hartley, Engineer.

The St. Andrew's Railway was opened throughout to the Richmond terminus in 1862. It is laid with a chair-jointed rail for the first 65 miles, and with a fish-jointed rail for the next 23 miles: the road-bed was graded 16 feet wide on embankments, and 24 feet and 30 feet in cuttings. The alignment of that portion between the Woodstock junction and the intersection of the Western Extension Railway, about 40 miles, is very good,—the proportion of straight line being 30 miles to 10 miles of curvature. The minimum radius of curvature is 1910 feet, and the maximum grade is 53 feet per mile.

The through freight, Up line, in 1865 was.....	2,055 tons.
Do. Down line do.	3,584 "
Total freight, including local, do.....	41,568 "
The through freight Up line in 1866, was.....	4,406 "
Do. Down line do.....	7,487 "
Total freight including local, do.....	52,573 "
The gross earnings of the road in 1864 was.....	\$47,000
Do. do. 1865 "	\$56,000
Do. do. 1866 "	\$65,500
And to July 30th.....do. 1867 "	\$44,000

The branch line from St. Stephen, which forms a junction with the St. Andrew's Railway on the 29th mile, was opened during the latter part of the winter of 1866. It is 19 miles in length, following the serpentine

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valley of the Dana's Stream, and is laid with the fish-jointed rail, 56 lbs. per lineal yard. It was built and equipped at the rate of \$16,000 per mile, and is considered to be a very good road. It was the first constructed under the Government Subsidy Act. The Woodstock Branch will be the second.

WESTERN EXTENSION RAILWAY

is now under contract for the whole distance within the Province, 88 miles, and the works are going on briskly under a Company of American Capitalists, who are also pushing the road ahead at the Bangor end in the State of Maine. The distance from the point of intersection with the Saint Andrew's Railway, (42 miles from this town), to St. John, is 82 miles. According to the Report of Mr. Burpee, the Engineer, the character of the work is so far favorable, that the average cost per mile, including equipment, may be taken at \$30,000. The width of road-bed on embankments will be 18 feet, and in cuttings from 24 to 30 feet. Weight of rail per lineal yard, 63 lbs.

The Port of Saint John is situated in latitude 45° north, longitude 66° 4' west is a very spacious open winter port, and has sufficient depth for the safe anchorage of vessels of the largest class, the depth varying from 10 to 60 fathoms. The tide flows and ebbs from 20 to 26 feet. The number and tonnage of vessels built and registered at this port, and its immediate neighbourhood in 1865, was 37 vessels, measuring 26,208 tons. The number and tonnage of vessels, British and Foreign, which arrived during the year was 1,856 vessels, of 433,834 tons; and the number that cleared the same year was 1,883 vessels, of 475,775 tons.

The Montreal "*Trade Review*," in an article on "the Course of Inter-colonial Through Traffic," in which it institutes a comparison of the Halifax and St. John Harbours, says of the latter:—"There is also this great additional advantage in favor of St. John, viz, that vessels coming there can always at any period of the year be certain of a return freight of deals, if there should not be any western freight offering. This is an advantage which Halifax does not possess. Again, as regards facilities for repairing vessels, St. John has a decided preference, and in all matters relating to the quick discharging of cargoes, and indeed for general promptitude in business matters, is at least on a par with Halifax."

Saint Andrew's is the chief town of the County of Charlotte, containing within its parish about 3,000 inhabitants. It is situated upon a peninsular ridge extending into the Passamaquoddy Bay, and lies N. W. and S. E. It is also the terminal town and seaport of the New Brunswick and Canada Railway, 88 miles in length to Richmond Station, in the County of Carleton.

As far back as the years 1833-4-5, the number of vessels that entered and cleared this port was 435, with a gross tonnage of 91,307.

Between the years 1833 and 1838, the number of vessels that entered and cleared was 2,418 with 240,892 tons.

During this period, all lumber and merchandise shipped from the ports of the United States for the West Indian ports were first conveyed here, and then reshipped; and there have been upwards of 25 square rigged vessels lying in this harbour at one time.

The sudden decline of this fruitful commerce, and the profitable mercantile business it created in the town and through the county, is dated from the period when a Reciprocal Treaty opened the West Indian ports to a more direct American trade.

For some years past a number of full-rigged ships have been built and launched at this port, averaging 500 tons each.

Passamaquoddy Bay is about 15 miles in length, and 7 miles in width. It is not equalled in extent by any other for harbour purposes in North America, except Halifax.

The number of vessels that entered at this port during the year 1865 was 538, with a gross tonnage of 70,064 tons.

The Import Duties collected during the year 1866 amounted to \$21,000. The Exports in lumber were 504 tons squared timber, and 7,653,100 superficial feet sawn lumber.

Respectfully submitted,

WALTER M. BUCK,

CIVIL ENGINEER.

Saint Andrews, N. B., }
September, 24th, 1867. }

Reference has been made to the following works:—

Munro's New Brunswick; Agriculture of Maine, 1865; Census of New Brunswick; Census of Maine; Woodstock Athenæum Report, 1864; Auditor General's Report, 1866; Trade and Navigation Report, 1865; Report on Exploratory Surveys for Inter-colonial Railway, by Sandford Fleming, C. E., 1864; Report of Chief Commissioner of Public Works, 1861; Report of Western Extension Railway, by C. R. Burpee, C. E., 1865.

APPENDIX.

[A]

REVIEW OF THE INTERCOLONIAL RAILWAY SURVEYS.

An examination of the country between River Du Loup and the Town of Woodstock was made during the year 1860 by Mr. T. S. Rubidge for the Grand Trunk Railway Company. This examination was of a general character, the route then suggested and fully reported upon for a Frontier Line of Railway being as follows:—

From the River du Loup Station to the east side of the Temiscouta Portage; thence by St. Modeste and the Valley of River Verte, across the Portage, keeping nearly parallel to Blue River, and crossing the Cabineau River near the Falls; thence to the head waters of River aux Perches, and on the Degele at the foot of the Temiscouta Lake; thence along the Valley of the Madawaska River, crossing at Little Falls; then entering the Valley of the St. John at Edmunston, and thence following the eastern bank of the River to the crossing above Grand Falls; thence along the western bank to the town of Woodstock, and connecting with the St. Andrew's Railway at some convenient point.

At the time of this examination the St. Andrew's Railway had only progressed as far as Canterbury Station on the 65th mile. The distances then given are as follows:—

	MILES.
River du Loup to Province Line,.....	67—not surveyed.
Province Line to Grand Falls,.....	50—“
Grand Falls to Woodstock,.....	73—“
Woodstock to Canterbury,.....	22
	212
Deduct from Canterbury to Terminus.....	23—since constructed.
Total mileage from River du Loup.....	189 { to Richmond Terminus of N. B. and Canada Railway.

Mr. Rubidge states in his report that, —

“The Valley of the Madawaska is generally flat or slightly undulating. It is skirted on either hand by a continuous range of steep hills which near the Province line, and in the vicinity of Edmunston approach the river.

“These hills, however, may be avoided without difficulty. This portion of the line will be found very direct; the grades light and the curves of large radius. Settlements occur at frequent intervals all along the west bank of the river, and towards Edmunston on the east bank, also. Thus far the settlers are chiefly French Canadians.

“The village of Edmunston is situated at the junction of the Madawaska with the River St. John, and promises to become a place of some importance as a lumbering

depot. The River St. John is here the boundary between New Brunswick and the United States. Several first-class Saw Mills have recently been erected which manufacture lumber for the St. John and American markets.

"From Edmunston the line will continue down the Valley of the St. John at very favorable grades, passing through a comparatively well settled, fertile, and level part of the country.

"The settlers in the Madawaska territory, which includes both sides of the river between Edmunston and Grand Falls, are Acadian French.

"The proposed Railway would certainly promote the settlement of this most valuable timber region. It would also develop the manufactured lumber trade by affording facilities for obtaining supplies and for transportation to market, either at St. Andrew's, Quebec, or River du Loup. Saw Mills for manufacturing timber would be erected on the tributaries of the St. John, and eventually almost all the timber on the river would be converted into deals, clapboards, shingles, and similar short lumber.

The next exploratory survey and examination was made from the Richmond Terminus of the N. B. and C. Railway to the Canadian frontier at the head of the Iroquois River, the particulars of which are given in my report bearing date Feb. 3rd, 1863. During a portion of the Fall and Winter of 1861, Mr. T. S. Rubidge, as I learned, was also engaged in making instrumental explorations in the vicinity of the Toledi and Squatook lakes and rivers, down to the head of the Iroquois. The intention was therefore to join his survey at this point so as to make one continuous route to River du Loup.

The distances on this route will be as follows:—

	MILES.
From Richmond Terminus to Saint John River near Wilson's,.....	33—instrum'tly surv'd.
Saint John River to Tobique River, at or near Hutchinson's,.....	26—examined.
Tobique to Grand Falls,.....	20—instrum'tly surv'd.
Grand Falls to Province Line,.....	55—examined.
Province Line to Eagle Lake,.....	30—explored.
Eagle Lake to Trois Pistoles,.....	20—Fleming's survey.
Trois Pistoles to River du Loup,.....	24—G. Trunk survey.
Total mileage from Richmond,.....	208 to River du Loup.

In 1864 Mr. Sandford Fleming made his exploratory survey for the Intercolonial Railway, and subsequently issued his very able and comprehensive report, embracing three Frontier routes, nine Central routes, and three North Shore or Bay Chaleur routes.

Of the various Central routes or deviations, it will only be necessary to consider that reported upon in full, viz., from Trois Pistoles via Green River Forks, Restigouche, Tobique, Keswick Summit and Valley, Little River, Coal Creek to Apohaqui Station at Sussex on the European and North American Railway, and distant about 50 miles from St. John,—being a total distance of 360 miles as surveyed.

In relation to this surveyed route, Mr. Fleming, however, states that "between the 19th and 71st miles from Trois Pistoles, the line above described makes a very great and objectionable detour to the eastward, which, I feel confident, can be avoided by a more direct route, and thus save about 20 miles in distance."

"Its length due to the easterly detour is much too great, and in consequence I would be disposed to recommend the direct route by the Toledi and Sandy Lake."

The divergence of these lines is at a point north of the Eagle Lake; and from the same point diverges also the route by the west branch of the Toledi; thence along the western margins of the first, second, and third lakes; thence to the eastward of the fourth lake, across the Squatook River, to the head of the Iroquois before mentioned, at the Frontier line. The distance here gained from the point of divergence to a point abreast on the Central line is about 23 miles.

Mr. Fleming further remarks that "a great deal of careful surveying will be required on this section before the best and cheapest location can be found along the Toledo, and across from Sandy Lake to Eagle Lake."

On this section there are 32 miles of sixty-four feet grade, and the same mile of seventy feet grade. On the next section to the Restigouche, and along the valley of the Gouanaitz, there is a continuous grade of seventy feet per mile for nine and a-half miles, which is, Mr. Fleming says, "certainly one of the most unfavorable on the whole line surveyed, but I fear unavoidable." Altogether there are 11.3 miles of 70 feet gradient on this section.

From the Restigouche to the Tobique there are 14.5 miles of grades varying from 60 to 70 feet per mile.

The section from the Tobique to the Keswick Summit involves a work of great magnitude, namely, the bridging of the Wapkehegan River, which will be nearly 1000 feet in length and 140 feet in height. The excavation, also, on a continuous ascent of 70 feet per mile for five and a-half miles long, "will be unusually heavy."

From this section to the Apohaqui Station the character of the line is comparatively better, with the exception of that portion along the Valley of the Keswick; "the descent of the west branch is very rapid for the first eight or nine miles, and heavy grades for this distance will be unavoidable." From the mouth of the Keswick the line pursues the bank of the River St. John to the Nashwaak. Here the St. John River could be crossed to the City of Fredericton, although the bridging would be very formidable and costly on account of the width and depth of the river, and the "jamming" on the moving of the ice. From Fredericton there is a projected branch line south to Hartt's Mills on the Oromocto River, a distance of 21½ miles, tapping Western Extension Railway from St. John at the 44th mile. This would be, as Mr. Fleming states, "the most direct central route from Canada to the Harbor of St. John on the Atlantic seaboard."

In summing up the whole work of the survey, Mr. Fleming ingenuously remarks: "In concluding the description of the main features of the line surveyed through the centre of New Brunswick, I desire to add that the survey can scarcely be considered much more than a mere exploration. The impenetrable character of the forest, more particularly to the north of the Restigouche River, the difficulties experienced in getting supplies forwarded through the woods, together with the limited time and means for the service, rendered it impossible to accomplish more than a rough and rapid instrumental survey of a line in all probability not the best that can be found through the country. However, sufficient information, it is hoped, has been procured to show, not only that a practicable line can be obtained, but also, (although no great accuracy is professed), what it may possibly cost."

Next, in viewing the varied projected routes on the New Brunswick and Canada division of the survey, Mr. Fleming makes the following deduction in favor of Line No. 3, that it "is the shortest Frontier route to St. John; its total length is 301 miles, the whole of which is yet to be built. The shortest Central route to St. John is Line No. 4, the total length being 326 miles,—the whole requiring to be constructed.

Line No. 3.—From River du Loup to Grand Falls.—I quote from Mr. Fleming's Report the following synopsis:—

"This line is precisely the same as No. 1. From Grand Falls it passes over to Salmon River, and there joins the proposed extension of the Canada and New Brunswick Railway as explored by Mr. Buck the Engineer of that Company. [See Appendix D]. It then follows Mr. Buck's exploratory line across the Tobique River to the head waters of the Munquart River; thence it crosses over and joins the line surveyed by Mr. Burpee for the New Brunswick Government from Fredericton to the City of St. John."

The line explored in 1861, being a portion of Line No. 3 above referred to, instead of being continued from the head of the Munquart River to the northwest branch of the Miramichi River, deviates westwardly to the mouth of the Hardwood Creek opposite Wilson's on the main river road, and thence by instrumental survey to the Richmond terminus of the N. B. & C. Railway, and is referred to by Mr. Fleming in his remarks upon Frontier Line No. 2 as follows:—

"From this point (St. Basil) instead of following the immediate banks of the St. John to Woodstock as Line No. 1 does, it joins on to the exploration line made some three years ago by the St. Andrew's Railway Company when they seemed to have seriously entertained the idea of extending to Canada. This line leaves the St. John River near St. Basil and crosses the Grand River about ten miles from its outlet. It passes about five miles to the east of Grand Falls and crosses the Tobique about fifteen miles from its mouth; thence it is shown in the map to cross over by the Otelloch and Manquart Rivers to the St. John at Hardwood Creek. At Hardwood Creek the line crosses the St. John on a bridge proposed to be 100 feet high and fully 800 feet long, and continuing onwards it connects with the existing railway to St. Andrew's at its present terminus seven miles west of Woodstock."

The Western Extension Railway from St. John via the Douglas and Nerepis Valleys, is now in course of construction by a Company of American capitalists—belonging, principally, I believe, to Philadelphia—and will intersect the N. B. and C. Railway on the 43rd mile from St. Andrew's, and 82 miles from St. John.

The distance from River du Loup via the Richmond terminus to St. John, would therefore be as follows:—

From River du Loup to Richmond terminus,.....	203 miles.
Along N. B. and C. Railway,.....	45 "
From Railway to St. John,.....	82 "
Total mileage,.....	335
Deduct length of line built,.....	45 miles,
" under contract to private Company,.....	82 " "
Length of Intercolonial to be built,.....	208 "

From the town of Woodstock a branch line is now being constructed, eleven miles in length, to form a junction with the N. B. and C. Railway on the 83rd mile from St. Andrew's. It is now fully anticipated, from the present advanced state of the works, that the line will be completed and in running condition by next fall. Taking therefore a portion of Frontier Line No. 1, and the projection by the Toledo in connection with this Branch, the distance from River du Loup to St. John would be as follows:—

From River du Loup to Grand Falls,.....	129 miles.
" Grand Falls to Woodstock,.....	73 "
" Along Branch Railway,.....	11 "
" Along N. B. and C. Railway,.....	40 "
" Railway to St. John,.....	82 "
Total mileage,.....	335
Deduct lines already built,.....	51 miles,
" under contract,.....	82 " "
Length of Intercolonial to be constructed,.....	202 miles.

The construction mileage is therefore somewhat in favor of Woodstock and its Branch Railway, although the total mileage from River du Loup to St. John is apparently the same.

I will now compare the estimate submitted by Mr. Sanford Fleming for the Central line 340 miles in length, with an estimate I have prepared for 208 miles from Richmond to River du Loup.

It will readily be understood and conceded that the character of the country on the

latter, being a Frontier line, and passing through settled districts, is much less irregular, unbroken, and impenetrable than a line passing through the centre of the wilderness, and as yet but partially explored

According to the gross population of the districts, the number of inhabitants per mile of railway would be, Frontier 260, Central 122, North Shore 235.

Under the heading of "The Estimates," Mr. Fleming very truly observes;—"that the knowledge I have acquired of the country by the recent examinations induces me to believe that although the estimates are only approximations, yet they need not, under *proper management*, be exceeded." I perfectly coincide with him in this observation, which is, indeed, equally applicable to my own case; and I cordially support him in the view that during construction much, if not all, depends upon "*proper management*" regarding an Engineer's full and ample estimate being recklessly exceeded

RIVER DU LOUP TO APOHAQUI.

NEW BRUNSWICK AND CANADA DIVISION OF SURVEY.

	Currency.	Sterling.
Uniform mileage charges, 340 miles at \$23,000 per mile,.....	\$7,820,000	
Bridging and grading, estimated from quantities deduced from exploratory survey,.....	7,615,000	
Total estimate River du Loup to Apohaqui,.....	\$15,435,000	
Being equal to about \$15,000, or £11,350 currency per mile,.....		
This estimate would be in sterling, assuming \$5 to the sovereign,.....		£3,087,000

RICHMOND TERMINUS TO RIVER DU LOUP.

	Currency.	Sterling.
Estimated cost from Richmond Terminus to Fulcan's, where exploration commenced,.....	£28,532	
From Fulcan's to St. John River at Wilson's,.....	203,934	
Bridging St. John River,.....	55,000	
From St. John River to Tobique River,.....	195,000	
Bridging Tobique River,.....	20,000	
From Tobique to Grand Falls,.....	91,000	
From Grand Falls to Province Line,.....	412,500	
From Province Line to River du Loup,.....	555,000	
208 miles, Rolling Stock (Fleming's ratio),.....	156,000	
Being equal to £8,350 currency, or \$33,400 per mile.	£1,717,032	£1,373,000
Mr. Fleming's estimate of Central Line in curr'cy,.....	£3,858,875	
Estimate as above,.....	1,717,032	
Balance in favor of Frontier Line, Canada and New Brunswick,.....	£2,141,843	1,713,474

The estimate for this line by Woodstock on the same data would be less by £50,100 currency, and for the line from River du Loup, via western side of Temascouta Lake and down the Madawaska to Edmundston, and thence to Woodstock, there would be a saving of \$634,000.

Mr. Fleming's estimated average cost per mile on the whole length from Canada to Nova Scotia is \$46,000, being equal to £11,500 currency.

With regard to the proposed route, via the Metapedia and Bay Chaleur, or otherwise the North Shore route, I take the following from Mr. Fleming's report:—

"An estimate may similarly be formed of the portion of the Chaleur Line, which was surveyed last summer up the valley of the Metapedia, and in length 70 miles."

Uniform charges as already estimated, 70 miles at \$23,000 per mile,.....	\$1,610,000
Bridging and grading ascertained from survey,.....	1,175,000
Total,.....	\$2,785,000

"The estimated cost of this 70 mile section is \$2,785,000, including a mileage proportion of all the charges necessary to complete the line and put it in operation. The average cost per mile of this section is therefore \$39,786, and as Major Robinson and Captain Henderson considered it the most formidable portion of the whole route between Halifax and Quebec, it would probably give a maximum and safe estimate of the cost of the route to which they refer, by applying the rate per mile to the distance yet to be constructed. Taking this course we have \$19,853,214 as the total cost of the line between River du Loup and Truro. Less than this total sum may suffice, but until the surveys are extended to all "points where difficulties may probably exist, I do not think it would be at all safe to estimate the cost of Bay Chaleur route (Line No. 15) at a less sum than \$20,000,000,"

This in sterling money as before is.....	£4,000,000
Interest is now guaranteed by the British Gov't on a loan of.....	3,000,000
To construct the North Shore Line will therefore require an additional.....	1,000,000

THE MILITARY ASPECT.

The Letter of Instructions conveyed to Mr. Fleming from the Provincial Secretary's Office, Quebec, bearing date 11th March, 1864, has the following clause:—

"6. You will always pay attention to the distance of what may in other respects appear the most eligible line from the frontier of the United States at various points.

With a due regard to this Mr. Fleming remarks:—"In seeking to avoid the great military objection to any line in close proximity to the American boundary line, we unfortunately increase the engineering difficulties: as in looking for a line sufficiently distant from the Frontier, unless we at once go to the other side of the Province, and thus considerably increasing the length, we are driven into a section of the country characterised by great irregularities of surface and difficult to penetrate."

Here is the whole pith and marrow of the subject in question most forcibly presented in very concise and intelligible language; and I would ask,—after the experience gained in warfare during the late rebellion in the neighboring Republic, where railways far removed from the actual seat of war had to be protected and defended from the notorious guerilla raids,—if this great military objection can still possibly exist in the present time of peace and amicable relationship.

WALTER M. BUCK, C. E.

ST. ANDREW'S, N. B., April 8th, 1867.

[B]

RECAPITULATION OF PASSENGER TRAFFIC FOR 1861.

DOWN.

From To	Dalhousie.	Bathurst.	Miramichi.	Richibucto.	Shediac.	Total.
Quebec....	60	23	31	20	107	241
Dalhousie..	--	11	20	6	41	78
Bathurst..	--	--	6	1	12	19
Miramichi..	--	--	--	1	50	76
Richibucto.	--	--	--	--	22	22
Total....	60	34	57	44	241	436

UP.

From To	Richibucto.	Miramichi.	Bathurst.	Dalhousie.	Canada.	Total.
Shediac....	57	126	39	48	40	310
Richibucto.	--	29	6	10	32	76
Chatham..	--	--	34	30	27	91
Bathurst..	--	--	--	6	19	25
Dalhousie.	--	--	--	--	45	45
Total....	57	155	78	94	163	547

FREIGHT CONVEYED DURING THE SEASON, 1861.

DOWN.

About Eleven Thousand Five Hundred Barrels.

UP.

About Three Thousand Barrels.

MAILS.

Carried One Bag to each Port on every down Trip, and One Bag from each Port on the return Trip, besides the English Mail made up at Chatham, Newcastle, and Dalhousie, which are always put on board the outward bound Canadian Steamship, at Rimouski.

I certify this to be correct,

(Signed)

THOMAS LEACH, *Purser.*

*Steamship "Arabian" Office,
Toronto, December 27th, 1861.*

[C]

THE DOMINION AND THE WESTERN ROUTE.

Can a route be found which will meet the requirements of the Dominion, and at the same time secure the Imperial Guarantee?

As the Provinces of Quebec and Ontario have to pay *eleven-thirteenths* of the cost of the Intercolonial Railway, and have never made its construction a condition of Union, as New Brunswick and Nova Scotia have done, as set forth in the 145th section of the Act of Union, it is only right that the route to be chosen be one which will secure to their commerce a short highway to the ocean.

To ask them to sacrifice this all-important consideration, that the Intercolonial may pass through the wilderness section of New Brunswick, to open up a field for settlement for the benefit of that Province, would be requiring from them altogether too much.

Which route will be most conducive to the interests of the Dominion?

Mr. Fleming's Number Three. It would be 301 miles in length from the St. Lawrence to the ocean, and would connect all the political, military and commercial centres of the Dominion. An objection may be made to it as passing for 40 miles close to the frontier. *The question arises will not that be an advantage? Commercially, unquestionably so, as it for the most part would pass through a settled country.* On military grounds, this route has its advocates. Sir John A. McDonald in 1858, wrote to the Colonial Secretary, "that it is understood in Canada that the Western route is not now considered objectionable as a military road; nay, there are strong reasons for its selection as such." Sir Archibald Campbell, the hero of Burmah, must have looked at it in that light, or he never would have recommended its construction in 1836, or made an appropriation of \$10,000 for its survey out of the King's Casual and Territorial Revenue. The number of miles to construct by it in all is 410.

If the objection to it on the ground of proximity cannot be overcome, the one that would next best meet the requirements of commerce, and could not be objected to on military grounds, is Mr. Fleming's Number Five. It not only would pass through the cities of St. John and Fredericton as Number Three would, but would keep as far distant from the American border as a portion of the Railway from River du Loup to Quebec. The distance by it from the St. Lawrence to the ocean would be 328 miles, with 437 miles to construct.

This route, like "Three," would secure to passengers to and from the West a resting place at the end of the day's journey at either Fredericton or St. John, in place of

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having to pass the night in the heart of the country. In the winter time often storm-staid for days; in summer a dreary journey at the best, even if there were no black flies or mosquitoes to torment the traveller.

The inevitable consequence of building the railway through the wilderness, away from the centres of population, will be to turn the stream of European and Western travel over the American roads. To carry the Intercolonial for over *three hundred miles* through an unsettled country, before the St. Lawrence is reached, and passing by the cities of St. John and Fredericton, would destroy it entirely as a passenger route.

It would be another "RIDEAU" upon which the British Government expended \$4,000,000, the income from which in 1863 was \$3,242, while for the same period the expenditure was \$23,231. And like it, "would draw heavily on the public treasury for repairs every year, dragging out a burthensome existence in *peace*, that, perchance, it might be useful in *war*."

"If history repeats itself, may it not be on a work of fivefold magnitude, and that, too, entirely at the expense of the Dominion !

The travelling motto of the age is *celerity, certainty, and comfort*. Of all the routes, Number *Three*, as passing through the most settled sections of country, will best meet these requirements; after that, Number *Five*.

Sir Francis Hincks's practical eye readily discovered that a Western route was the one the country required. 1st. Because it will be the shortest to the ocean. 2nd. Because it would pass through the military and commercial cities of Fredericton and St. John. 3rd. Because it can be kept, if required, as far distant from the American Frontier as a portion of the line from River du Loup to Quebec. And, 4th. Because it was universally admitted to be the first as a commercial line.

The Hon. Thomas Baillie, when Surveyor-General of New Brunswick, recommended the same route. It agrees with Mr. Fleming's Number *Five*, and may be called a Western Central.

CONCLUSION.

Patriotic, commercial, and economic considerations, all demand one of these two routes for the Intercolonial. If necessary, it will be economy to spend on its construction a larger sum than would be required on a route with less advantages.

Railroads are expensive to maintain as well as to construct—consequently they should follow population, and not precede it. They should be located as near the centre of population as practicable, and on such routes as will attract, and not repel traffic and travelling. Testing the claims of the rival routes by this standard, the Western should be chosen. The Union Act declares the object of building the Intercolonial is "to consolidate the Dominion, to conduce to its welfare, and to promote the interest of the British Empire." As the route referred to will better accomplish these ends than either a Central or Northern, it should be adopted by the Government and Parliament of Canada, and it will unquestionably meet the approval of the British Government and secure the IMPERIAL GUARANTEE.

I have the honor to be,

Your obed^t Servant,

J. W. LAWRENCE.

St John, N. B., August 12. 1867.

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